

10. A rotary shaft axial elongation measuring device as claimed in Claim 4, wherein said sensor is any one of a capacitance type gap sensor, an eddy current gap sensor and a photoelectric sensor.

11. A rotary shaft axial elongation measuring device as claimed in Claim 5, wherein said sensor is any one of a capacitance type gap sensor, an eddy current gap sensor and a photoelectric sensor.

12. A rotary shaft axial elongation measuring device as claimed in Claim 6, wherein said sensor is any one of a capacitance type gap sensor, an eddy current gap sensor and a photoelectric sensor.

13. A rotary shaft axial elongation measuring device as claimed in Claim 7, wherein said sensor is any one of a capacitance type gap sensor, an eddy current gap sensor and a photoelectric sensor.